Name: _____ Date: _____ Class: _____

Distributive Property Worksheet

prtutorial.in

Use the distributive property to simplify each expression. Show your work if needed.

Example:

$3(2x + 5)$

$3(2x + 5) = 3 \cdot 2x + 3 \cdot 5$

$= 6x + 15$

The Distributive Property:

$a(b + c) = ab + ac$

(and $a(b - c) = ab - ac$)

You can distribute the number (or term) outside the parentheses to each term inside the parentheses.

1. Distribute the number outside the parentheses.

a) $4(3x + 5)$ = _____

b) $-7(2y - 3)$ = _____

c) $6(5a + 2)$ = _____

d) $-9(4b - 6)$ = _____

e) $8(7m + 1)$ = _____

f) $-5(3n - 8)$ = _____

2. Distribute the variable term.

a) $x(4x + 7)$ = _____

b) $-2y(5y - 3)$ = _____

c) $3a(6a + 2)$ = _____

d) $-4b(3b - 5)$ = _____

e) $7c(2c + 9)$ = _____

f) $-6d(5d - 1)$ = _____

3. Distribute the negative sign.

a) $-(5x + 8)$ = _____

b) $-(3y - 7)$ = _____

c) $-(6a + 4b)$ = _____

d) $-(9m - 2n)$ = _____

e) $-(11p + 5)$ = _____

f) $-(4q - 12)$ = _____

4. Write each expression in expanded form.

a) $5(2x + 3)$ = _____

b) $9(4a - 7)$ = _____

c) $-3(6x + 5)$ = _____

d) $8(3y - 2)$ = _____

e) $-6(7m + 9)$ = _____

f) $12(5p - 4)$ = _____

5. Combine like terms after distribution.

a) $3(x + 4) + 5x$ = _____

b) $2(5a - 1) - 7a$ = _____

c) $-4(3b + 2) + 6b$ = _____

d) $5(2x - 3) - 4x$ = _____

e) $-7(4y - 5) + 3y$ = _____

f) $6(3m + 1) - 2m$ = _____

6. Use the distributive property to factor (find the GCF).

a) $6x + 9$ = _____

b) $12a - 8$ = _____

c) $15y + 10$ = _____

d) $18m - 6n$ = _____

e) $4p + 14q$ = _____

f) $9x - 3y$ = _____

7. Solve the equations (use the distributive property).

a) $3(x + 5) = 21$ → x = _____

b) $4(2x - 3) = 20$ → x = _____

c) $-5(3x + 2) = -25$ → x = _____

d) $6(4 - x) = 18$ → x = _____

8. Word problems.

a) A store sells 5 notebooks for $3 each. Write an expression for the total cost and simplify it.

_____

b) A rectangle has a length of $(x + 4)$ and a width of $(x - 2)$. Write an expression for its area and simplify it.

_____

9. Challenge: Distribute and simplify.

a) $2(x + 3y - 5)$ = _____

b) $-3(4a - 2b + 7)$ = _____

c) $5(6p - 3q + 1) - 2p$ = _____

d) $-4(5x + 6) + 3(x - 2)$ = _____

10. Which expression is equivalent to $7(3x - 4)$?

a) $21x - 4$

b) $21x - 28$

c) $10x - 28$

d) $21x + 28$

Tip:
Use the distributive property to check your answer!